

WATER QUALITY REPORT

Your drinking
water is
SAFE!

The City Hialeah Department of Water and Sewers is pleased to provide our customers with our annual Water Quality Report. The publishing of this report is required each year by the Safe Drinking Water Act and State of Florida regulations. This report also serves as a reference with important information on the quality of water we deliver and provides you with contacts and telephone numbers you may need from time to time. The report contains:

- Drinking Water and Health: What You Need To Know
- Your drinking water source: The Biscayne Aquifer
- Special Note to At Risk Populations
- Mayor's Message
- Water Conservation Techniques
- Detailed information on analyzed contaminants
- What Should I Know About Certain Contaminants
- Physical and Aggregate Properties of Water
- Contacts for more information.



DRINKING WATER AND HEALTH: WHAT YOU NEED TO KNOW

Water makes up more than two-thirds of the weight of the human body, and without it, humans can not survive. For example, the human brain is made up of 95% water; blood is 82% water and lungs 90% water. Every system in your body depends on water.

The Safe Drinking Water Act gives the Environmental Protection Agency (EPA) the responsibility for setting national drinking water standards that protect the health of the 250 million people who obtain or receive water from public water systems. Since 1974, EPA has set national safety standards for over 80 contaminants that may occur in drinking water. Drinking water and health advisory summary tables are published periodically. They contain drinking water standards in the form of non-enforceable concentrations of drinking water contaminants, Maximum Contaminant Level Goals (MCLGs) or enforceable Maximum Contaminant Levels (MCLs). Maximum Contaminant Levels are the maximum permissible level of a contaminant in water delivered to users of a public water system.

YOUR DRINKING WATER SOURCE: THE BISCAYNE AQUIFER

The City of Hialeah purchases its water from Miami-Dade County, which is extracted from the Biscayne Aquifer. Since the 1920's, the Biscayne Aquifer has been the most important and only source of fresh water for Miami-Dade County. Some of the treatment facilities operated by Miami-Dade County are the Hialeah Water Treatment Plant and the John E. Preston Water Treatment Plant. Residents in Hialeah use about 24 million gallons of water each day. More than 330 million gallons of water daily is used in Miami-Dade County.

Why is the Biscayne Aquifer so important? The Biscayne Aquifer, lying directly under the urban area of Miami, is a source of water for almost 3 million people. Water from the Everglades and rain over the general area seep into the porous soils of Southeast Florida recharging the aquifer. This groundwater then moves slowly eastward toward Biscayne Bay and the Atlantic Ocean.

The Biscayne Aquifer is a wedge-shaped formation less than 10 feet in width west of Miami-Dade County. It slopes eastward, increasing in depth to 150 feet in width.

Only a thin layer of soil covers the aquifer. The water is located under the places where people live, work and can be easily tapped for use. While this is convenient, this also creates a problem. The quality of this source water can be affected by pollution from such activities as factories, agricultural spraying, or a landfill.

SPECIAL NOTE TO AT-RISK POPULATIONS

While the Safe Drinking Water Act regulations are intended to protect consumers throughout their lifetime, some people may be more vulnerable to infections from drinking water than the general population. These "at-risk" populations include immunocompromised persons such as persons with cancer undergoing chemotherapy, people who have undergone organ transplants; people with HIV/AIDS or other immune system disorders, and in some cases elderly people and infants. These people should seek advice from their health care providers about drinking water. USEPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the USEPA's Safe Drinking Water hotline at 305-556-7383.



JULY 2006

Mayor's Message



JULIO ROBAINA
MAYOR

I am pleased to report that the City's water supply meets or exceeds all federal and state guidelines of safe water for the 2005 reporting period including water standards established by the Florida Department of Environmental protection (FDEP), the Florida Department of Health and the United States Environmental Protection Agency (EPA). Our annual Water Quality Report presents information about the quality of the water we deliver to you every day. We continue to deliver a dependable supply of drinking water to all our residents and businesses alike. The Safe Drinking Water Act (SDWA) and its 1996 amendments ensure that public health and safety is protected in the drinking water supply made available for public consumption.

We deliver over 24 million gallons of water each day (MGD) for domestic and public use. The City's Department of Water and Sewers trained personnel monitor and analyze for contaminants in your water supply on a continuous basis. I encourage you to take the time and review this report to learn more about our water and its quality.

**HAVE
QUESTIONS
ABOUT THIS
REPORT**

Department of Water and Sewers
City of Hialeah

305-556-7383

OR YOU CAN SEE
THE REPORT AT
www.ci.hialeah.fl.us

WATER CONSERVATION TECHNIQUES

- Inspect your home/business plumbing system for leaks.
- Install flow control devices in showers.
- Turn off all water during vacations or long periods of absence.
- Check the frequency with which home water softening equipment regenerates and backwashes. It can use as much as 100 gallons of water each time this occurs.
- Insulate hot water pipes to avoid having to clear the "hot" line of cold water during use.
- Check all faucets, inside and out, for drips. Make repairs promptly. These problems get worse- never better.
- Reduce the volume of water in the toilet flush tank with a quart-plastic bottle filled with water (bricks lose particles, which can damage the valve).
- Accumulate a full laundry load before washing or use a lower water level setting.
- Take showers instead of baths.
- Bottle and refrigerate water to avoid running excess water from the lines to get cold water for meals. Shake bottle before serving to incorporate air in the water so that it doesn't taste flat.
- To get warm water, turn hot water on first; then add cold water as needed. This is quicker this way and saves water, too.
- Wash only full loads of dishes. A dishwasher uses about 9 to 13 gallons of water for each cycle.
- When washing dishes by hand, use one pan of soapy water for washing and a second pan of hot water for rinsing. Rinsing in a pan requires less water than rinsing under a running faucet.
- Use rinse water-"gray water"-saved from bathing or clothes washing to water outdoor plants. Do not use soapy water on indoor plants. It could damage them.
- Vegetables requiring more water should be grouped together in the garden to make maximum use of water applications.
- Mulch shrubs and other plants to retain moisture in the soil longer. Spread leaves, lawn clippings, chopped bark or cobs, or plastic around the plants. Mulching also controls weeds that compete with garden plants for water.
- Try "trickle" or "drip" irrigation systems in outdoor gardens. These methods use 25 to 50 percent less water than a hose or sprinkler system.
- Less frequent but heavier lawn watering encourages a deeper root system to withstand dry weather better.
- Plan landscaping and gardening to minimize watering requirements.
- When building or remodeling, consider:
 - Installing smaller than standard bathtubs to save water.
 - Locating the water heater near area where hottest water is needed-usually in the kitchen/laundry area.

CITY OF HIALEAH 2005 WATER QUALITY REPORT

PARAMETER	FEDERAL MCL (a)	FEDERAL GOAL (b)	STATE MCL	YEAR TESTED	MAIN SYSTEM	MAJOR SOURCES
MICROBIOLOGICAL CONTAMINANTS						
Total Coliform Bacteria (c)	5%	0	5%	2005	0.2%	Naturally present in the environment
DISINFECTION BY PRODUCTS						
Total Trihalomethanes (ppb)(d)	80	NE	80	2005	17 (ND - 49)	Byproduct of drinking water chlorination
Haloacetic Acids (ppb) (d)	60	NE	60	2005	15 (ND - 26)	Byproduct of drinking water chlorination
DISINFECTANTS						
Chloramines (ppm)	MRDL=4	MRDLG=4	MRDL=4	2005	2.4 (1.9 - 2.9)	Water additive used to control microbes
Chlorine (ppm)	MRDL=4	MRDLG=4	MRDL=4	2005	N/A	Water additive used to control microbes
VOLATILE ORGANIC CONTAMINANTS						
cis-1, 2-Dichloroethylene (ppb)	70	70	70	2005	ND	Discharge from industrial chemical factories
INORGANIC CONTAMINANTS						
Barium (ppm)	2	2	2	2005	ND	Erosion of natural deposits
Copper (ppm) (e) (at tap)	AL=1.3	1.3	AL=1.3	05/03 (f)	0.08, 0 homes out of 83 (0%) exceeded AL	Corrosion of household plumbing systems
Cyanide (ppb)	200	200	200	2005	ND	Discharge from plastic and fertilizer factories
Fluoride (ppm)	4	4	4	2005 (g)	0.7 (0.2 - 0.7)	Erosion of natural deposits; water additive that promotes strong teeth
Lead (ppb) (e) (at tap)	AL = 15	0	AL = 15	05/03 (f)	4, 3 homes out of 83 (3.6%) exceeded AL	Corrosion of household plumbing systems
Nitrate (as N) (ppm)	10	10	10	2005	ND	Erosion of natural deposits; runoff from fertilizer use
Sodium (ppm)	NE	NE	160	2005	53 (22 - 53)	Erosion of natural deposits and sea water
RADIOACTIVE CONTAMINANTS						
Alpha Emitters (pCi/L)	15	0	15	2003 (h)	4.7 (0.7 - 4.7)	Erosion of natural deposits
Combined Radium (pCi/L)	5	0	5	2003 (h)	0.9 (0.3 - 0.9)	Erosion of natural deposits
Uranium (ug/L)	30	0	30	2003 (h)	1.7 (0.2 - 1.7)	Erosion of natural deposits

WATER QUALITY TERMINOLOGY USED IN THIS REPORT

- (a) MCL = Maximum Contaminant Level
 (b) Federal Goal = MCLG = Maximum Contaminant Level Goal
 (c) The MCL for total coliform bacteria states that drinking water must not show the presence of coliform bacteria in $\geq 5\%$ of monthly samples. A minimum of 390 samples for a total coliform bacteria testing are collected each month from the main distribution system (55 samples from the South Dade Water Supply distribution system) in order to demonstrate compliance with regulations.
 (d) A total of 48 samples for Total Trihalomethane and Haloacetic Acid testing are collected each year from the Main Distribution System (20 samples from the South Dade Water Supply Distribution System) in order to demonstrate compliance with State regulations. Compliance is based on a running annual average. This is the value that precedes the parenthesis.
 (e) 90th percentile value reported. If the 90th percentile value does not exceed the AL (i.e., less than 10% of the homes have levels above the AL), the system is in compliance and is utilizing the prescribed corrosion control measures.
 (f) The 05/03 data presented for the Main System and South Dade System respectively is from the most recent testing conducted in accordance with regulations. Both systems are under reduced monitoring that only requires testing every 3 years.
 (g) Fluoride testing to demonstrate compliance with State regulations is required every 3 years in accordance with the State's monitoring framework. However, fluoride levels are monitored daily for the Main System treatment plants where fluoride is added to promote strong teeth.

- (h) Data presented is from the most recent testing conducted in accordance with regulations. Testing for this parameter is required every 3 years in accordance with the State's regulatory monitoring framework.

ABBREVIATIONS AND NOTES

- AL = Action Level
 MRDL = Maximum Residual Disinfectant Level
 MRDLG = Maximum Residual Disinfectant Level Goal
 N/A = Not Applicable
 ND = None Detected
 NE = None Established
 pCi/L = picoCuries per Liter
 ppb = parts per billion or micrograms per liter (ug/L)
 ppm = parts per million or milligrams per liter (mg/L)
 () = Ranges (low-high) are given in parenthesis where applicable
 The value preceding the parentheses is the highest detected level reported for the monitoring period except for disinfection by products and disinfectants, where the running annual average is reported.
 NT = Not Tested.

*** THE CITY OF HIALEAH OBTAINS ALL OF ITS WATER FROM MIAMI-DADE COUNTY. THIS INFORMATION IS PROVIDED BY MIAMI-DADE COUNTY.**

2005 RADON DATA SUMMARY

PARAMETER	FEDERAL GOAL	FEDERAL MCL	STATE MCL	YEAR TESTED	MAIN SYSTEM	MAJOR SOURCES
RADON (pCi/L)	NE	NE	NE	2005	138 (4 - 138)	Naturally occurring in soil and rock formations



WHAT SHOULD I KNOW ABOUT CERTAIN CONTAMINANTS?

LEAD AND COPPER are naturally occurring metals, which are generally found at very low levels in source water. However, these levels can increase when water contacts plumbing materials that contain lead or copper or brass. Infants and young children are more vulnerable to lead in drinking water than the general population. Concerned customers can take extra precautions to protect children from lead leached from faucets by running the water for a few seconds and using the water for something other than drinking. This is especially important if the water has been sitting in the pipes for a few hours or more. These same precautions also help to give you the best tasting water. The last required lead and copper monitoring was performed in 2002/03. The results were well below the action levels.

Research has shown, however, that infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community because of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested by an independent laboratory. Additional information is available from Safe Drinking Water Hotline (1-800-426-4791).

HALOACETIC ACIDS are organic compounds containing chlorine and/or bromine. The compounds are formed when chlorine or other disinfectants used to control microbial contaminants in drinking water react with organic and inorganic matter in water. At high enough concentrations, they are poisonous to plants, and some are suspected carcinogens.

CHLORAMINES as a group are generally recognized as potent respiratory irritants. The formation of these compounds when household bleach and ammonia are mixed leads to poisoning.

CHLORINE DIOXIDE is a powerful oxidizing agent that can decompose into chlorite. In the absence of oxidizable substances and in the presence of alkali, it dissolves in water, decomposing with the slow formation of chlorite and chlorate.

SODIUM: High levels of sodium may aggravate existing high blood pressure. Factors to help reduce high blood pressure include a low sodium diet, increased fruit and vegetable consumption, exercise, weight control and medication, if necessary. The danger of high blood pressure is possible damage to the heart and arteries, which may result in heart attack, stroke, or possible damage to other body organs.

COMBINED RADIUM is the radium's most common isotope (atoms whose nuclei have the same number of protons but different number of neutrons) with a half-life of 1,622 years. It is used in cancer radiotherapy, as a neutron source for some research purposes, and as a constituent of luminescent paints. It naturally occurs in some drinking water sources. Some people who drink water, containing radium -226 or -228 in excess of the MCL over many years may have an increased risk of getting cancer.

CYANIDE is a carbon-nitrogen chemical unit, which combines with many organic and inorganic compounds. The most commonly used form, hydrogen cyanide, is mainly used to make the compounds needed to make nylon and other synthetic fibers and resins. Other cyanides are used as herbicides. EPA has found cyanide to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: rapid breathing, tremors and other neurological effects. Cyanide has the potential to cause the following effects from a lifetime exposure at levels above the MCL: weight loss, thyroid effects and nerve damage.

PHYSICAL AND AGGREGATE PROPERTIES OF WATER

COLOR in water may result from the presence of natural metallic ions (iron and manganese), humus and peat materials, plankton, weeds and industrial wastes. Color is removed to make water suitable for general and industrial applications.

TURBIDITY: Clarity of water is important in producing products destined for human consumption. Turbidity in water is caused by suspended and colloidal matter such as clay, silt, finely divided organic and inorganic matter, plankton and other macroscopic organisms.

ODOR, like taste, depends on contact of a stimulating substance with the appropriate human receptor cell. Odor is recognized as a quality factor affecting acceptability of drinking water. Most organic and some inorganic chemicals contribute taste or odor.

TASTE refers only to gustatory sensations called bitter, salty, sour, and sweet that result from chemical stimulation of sensory nerve endings located in the papillae of the tongue and soft palate. Water samples taken into the mouth for sensory analysis always produce a flavor, although taste, odor or mouth-feel may predominate, depending on the chemical substances present.

ACIDITY of water is its quantitative capacity to react with a strong base to a designate pH. Strong minerals acids and weak acids, such iron or aluminum sulfates, may contribute to the measured acidity according to the method of determination.

ALKALINITY of water is its acid-neutralizing capacity. Alkalinity is significant in many uses and treatments of natural water and wastewaters.

HARDNESS: Originally, water hardness was understood to be a measure of the capacity of water to precipitate soap. Soap is precipitated chiefly by the calcium and magnesium ions present. In conformity with current practice, total hardness is defined as the sum of the calcium and magnesium concentrations, both expressed as calcium carbonate, in milligrams per liter.

OXIDANTS are added to water supplies and wastewaters primarily for disinfections. Other beneficial uses include slime removal, oxidation of undesirable inorganic species (e.g. ferrous ion, reduced manganese, sulfide and ammonia), and oxidation of organic constituents (e.g. taste-and odor-producing compounds).

CONDUCTIVITY: k, is a measure of the ability of an aqueous solution to carry an electric current. This ability depends on the presence of ions, on their total concentration, mobility, and valence; and on the temperature of measurement. Solutions of most inorganic compounds are relatively good conductors. Conversely, molecules of organic compounds that do not dissociate in aqueous solution conduct a current very poorly, if at all.

SALINITY is an important property of industrial and natural waters. It was originally conceived as a measure of the mass of dissolved salts in a given mass of solution.



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